

LEARNING BY DOING

A NEW APPROACH TO MANAGING AQUATIC RESOURCES IN COLORADO

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National Water Quality Monitoring Conference
March 28, 2019

OVERVIEW

- History
- Who we are
- Monitoring Plan
- Challenges
- Successes



HISTORY

- Arid West Climate
- Water Supply & Demand Imbalance
- Conflict, Litigation, Impasse
- 2002 Drought....



LEARNING BY DOING 101

Mitigation & Enhancement Requirements

- **Windy Gap Firming Project**
(Northern Municipal Subdistrict)
- **Gross Reservoir Expansion Project**
(Denver Water)
- More than **\$10 million** earmarked for mitigation and enhancement projects

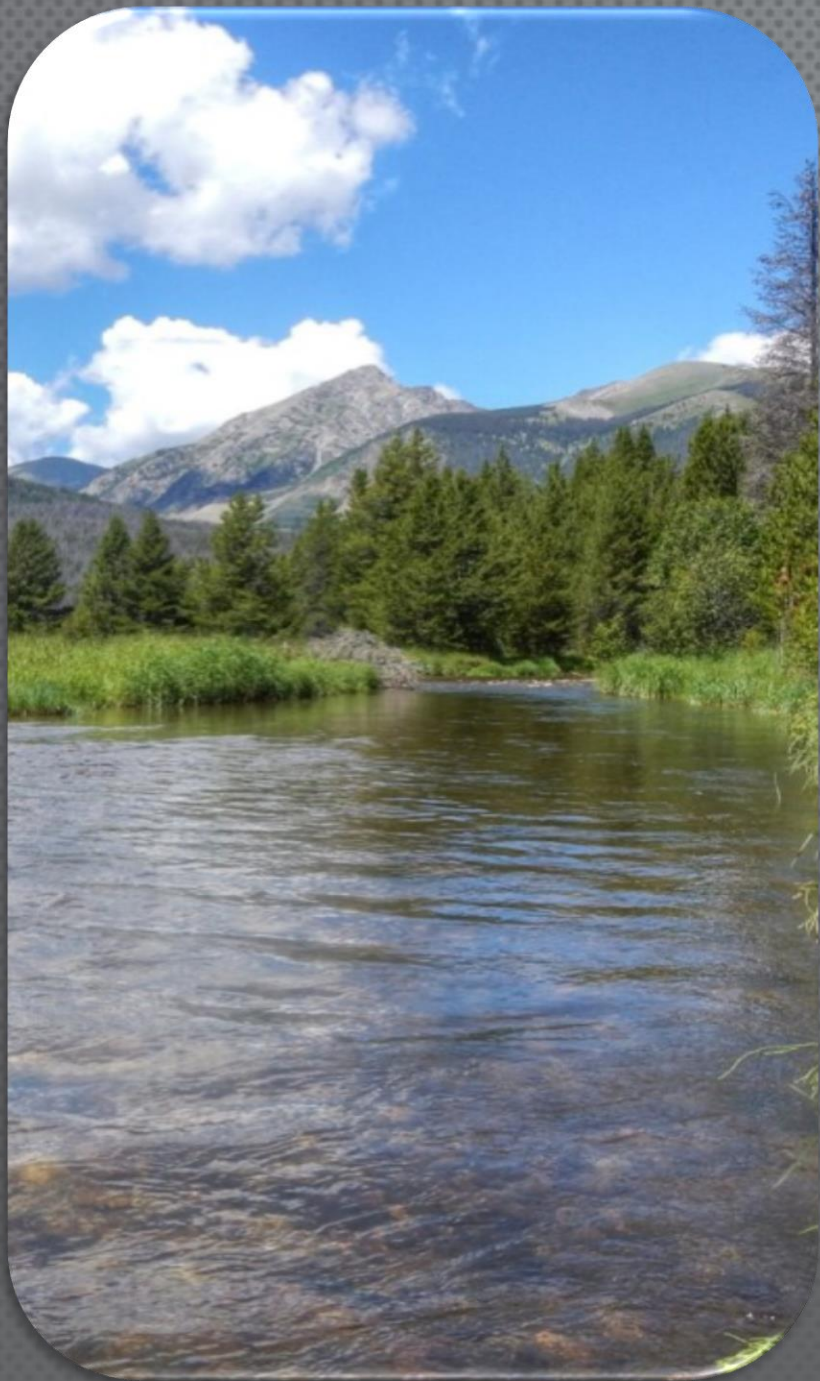
Inter-Governmental Agreements

- **Cooperative partnership of East and West Slope Stakeholders**
- Establishes organizational structure and decision making
- Sets goals and priorities

LBD PARTNERS

- COLORADO PARKS AND WILDLIFE
- COLORADO RIVER DISTRICT
- DENVER WATER
- GRAND COUNTY
- MIDDLE PARK WATER CONSERVANCY DISTRICT
- NORTHERN WATER/NORTHERN WATER MUNICIPAL SUBDISTRICT
- TROUT UNLIMITED
- GRAND COUNTY WATER AND SANITATION DISTRICT
- U.S. BUREAU OF RECLAMATION
- U.S. FOREST SERVICE
- TOWN OF HOT SULPHUR SPRINGS
- WINTER PARK WATER AND SANITATION DISTRICT





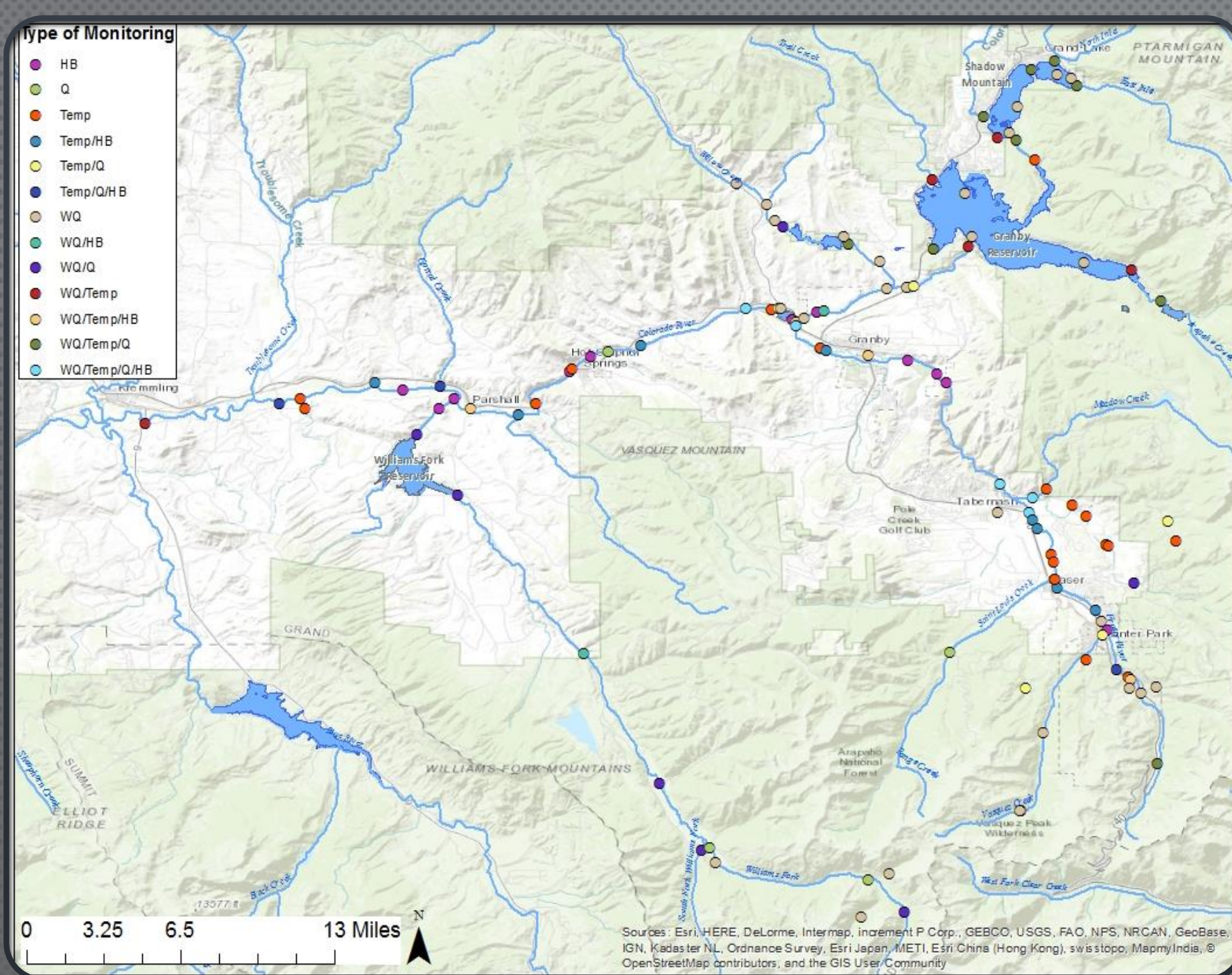
GOAL OF LBD

To **maintain** and, where possible, **restore** or **enhance** aquatic environments in Grand County.



AQUATIC RESOURCE MONITORING PLAN

- Required in the IGA
- Incorporates Grand Co. Stream Management Plan elements
- Identifies existing monitoring efforts
- Evaluates monitoring gaps
- Evaluates effectiveness of restoration and operations
- Provides annual monitoring plan and reports
- Formation of Monitoring Subcommittee



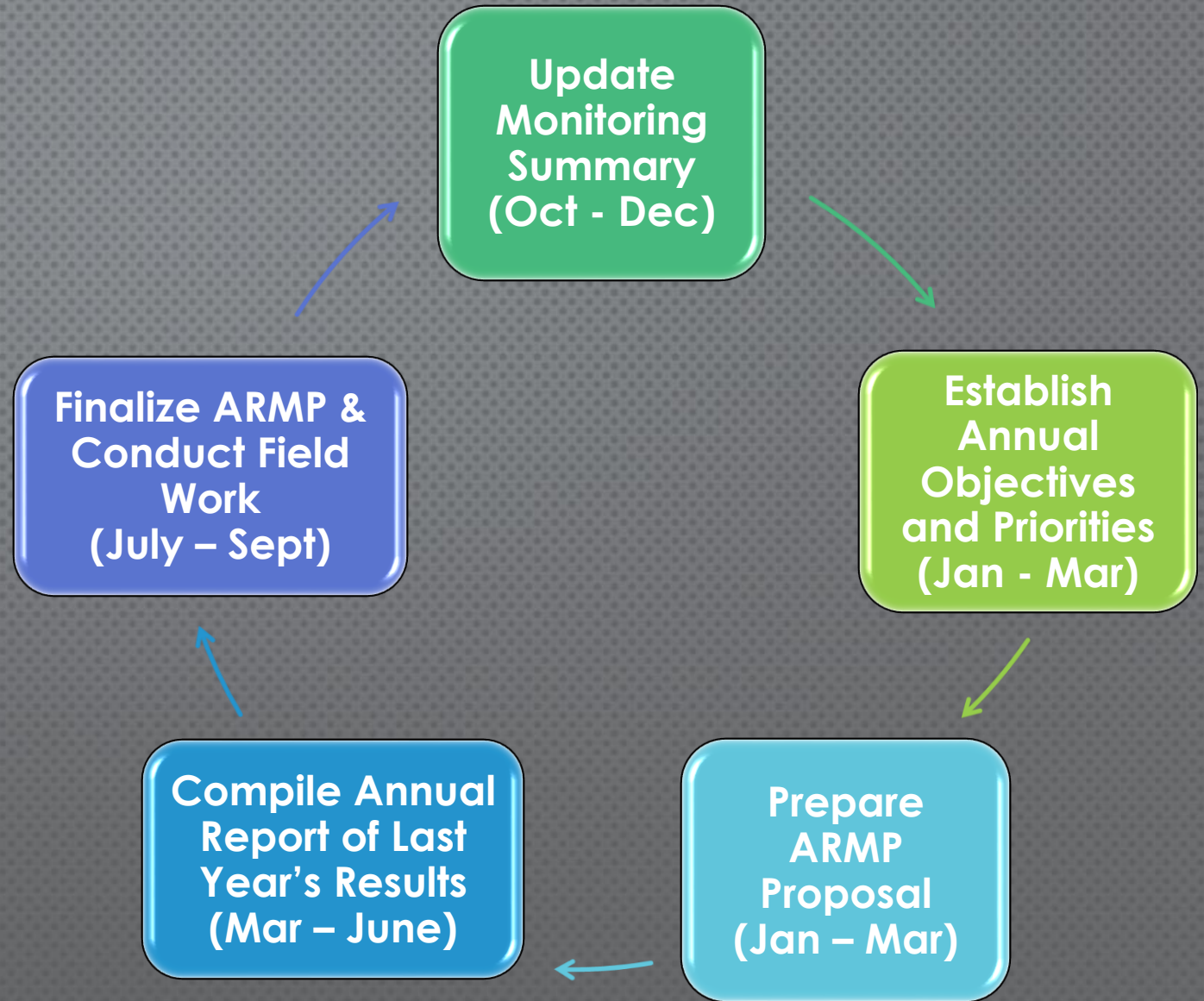
CHALLENGES

Tremendous amount of existing monitoring activities

- 203 sites
- 12 monitoring entities
- Water quality, temperature, habitat, aquatic life and flow

CHALLENGES

- Establishing objectives
- Establishing annual planning process



CHALLENGES

- Disagreement on some methodologies for LBD specific programs
- Disconnect between Management and Monitoring Committees
- How to bring information together in comprehensive report?



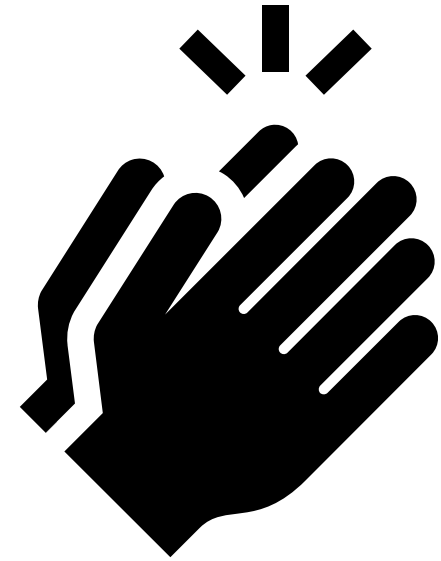
OR?



SUCCESS STORIES - 2018

AQUATIC RESOURCE MONITORING PLAN

- Monitoring Summary
- Temperature Monitoring
- Substrate Monitoring
- Macroinvertebrate Monitoring
- Fish Monitoring
- Fraser Flats River Restoration Monitoring
- 303(d) List Monitoring



SUCCESS STORIES – FRASER FLATS RIVER HABITAT PROJECT

- **Goal:** Restore aquatic habitat on 1 mile of the Fraser River
 - Instream channel improvements
 - Revegetation of riparian area
 - Sept 2017 – project constructed
 - May 2018 - 0.4 mile opened to public fishing
- Baseline monitoring conducted
- Post-restoration monitoring includes:
 - Macroinvertebrates
 - Fish population estimates
 - Substrate condition
 - Stream Temperature
 - Willow revegetation



9/5/2017
BEFORE

~30 cfs



9/15/2017
AFTER

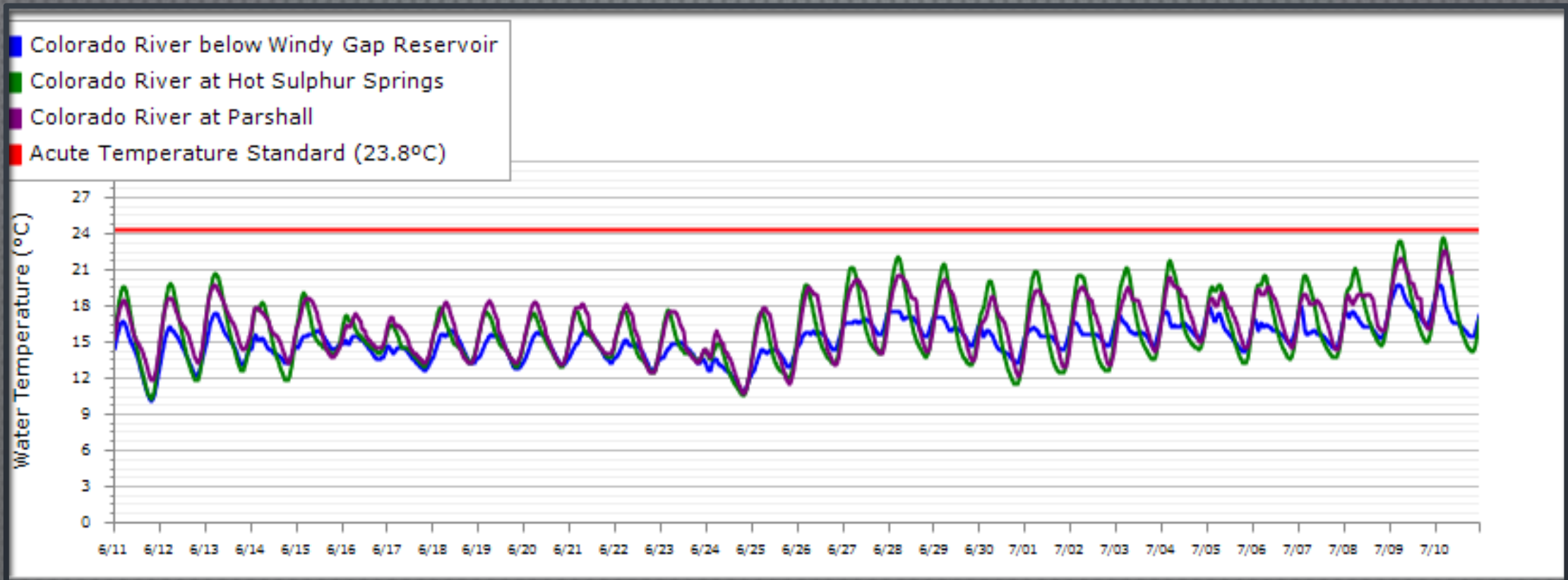
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New point bars use rocks to redirect water into the middle of the river when water levels are low.

SUCCESS STORIES

– 2018 STREAM TEMPERATURE

- Weekly operation calls
- Incorporate temperature data
- Operational adjustments considered to help alleviate high temperatures



LBD PARTNER QUOTES

“The quality of the human character and the dedication of people can overcome a lot of obstacles.”

—Eric Wilkinson
Northern Water

“We are a group of very stubborn people intent on having it all – a healthy river *and* a water supply.”

—Mely Whiting,
Trout Unlimited

“LBD is a wonderful example of how divergent interests can focus their collective energy and ample talents for the benefit of the environment.”

—Dave Little,
Denver Water

Visit LBD's Website:

<https://www.grandcountylearningbydoing.org/>





QUESTIONS?

PLEASE CONTACT ME:

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